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GEOLOGY AND PALÆONTOLOGY.

Fossils of the Iowa Loess.—The loess of Iowa is, for the major part, limited to the extreme western and south-western portions of the State. The counties of Fremont and Mills are entirely, while those of Page, Pottawattamie, Harrison, Monona and Woodbury, are partially covered by this deposit. Professor Witter has discovered it under and about the city of Muscatine, on the Mississippi river, but as the following list is the result of personal observations, it will be limited to those portions studied on the western side of the State. The species all belong to either aquatic, semi-aquatic or terrestrial genera. Of the species here listed, Professor J. E. Todd has given, in the Proceedings of the American Association for 1878, some eighteen forms; and in the Report of the Geological Survey of Missouri for 1855, Professor Swallow records forty species of land and fresh-water shells, all determined by the careful hand of F. B. Meek. One hundred and twenty-three species are enumerated by Professor Samuel Aughey in his "Sketches of the Physical Geography and Geology of Nebraska," but the great majority of them could not have been properly determined, and this with all due deference to that gentleman. No more than thirty-seven, *perhaps* forty, of all the forms he has enumerated can possibly stand. Of his list, eighteen are mentioned by generic names alone, and thirty-one are given with a question. It is not a little singular that most of the forms he names have not been found by other observers in the same field; they do not occur in the lists of either Professor Todd or Professor Swallow, and my own studies of the loess fail to bring many of them to light. The loess in the three States of Nebraska, Iowa and Missouri, where the gentleman named studied the formation, was all deposited during the same period, had the same origin, and the geographical extent of its deposition is too limited, by far, to admit of such radical differences of climate that tropical and sub-tropical forms should be found on one side of the Missouri river, but fail to appear in the same formation on the opposite side.

During occasional visits to the bluffs of loess that border the Missouri in the counties of Fremont and Mills, the following species of Mollusca have been found, some of them in fair abundance when the nature of the deposit is considered, while others are of extreme rarity: *Hyalina arborea* Say, *H. indentata* Say, *H. minuscula* Binney, *Stenotrema monodon* Rack., *Helicodiscus lineatus* Anth., *Conulus fulvus* Drap., *Strobila labyrinthica* Say, *Patula alternata* Say, *P. striatella* Anth., *Mesodon clausa* Say, *M. profunda* Say, *M. multilineata* Say, *M. thyroides* Say, *M. albolabris* Say, *Vallonia pulchella* Müll., *Macrocyclis concava* Say, *Pupa pentodon* Say, *P. armifera* Say, *Succinea obliqua* Say, *S. ovalis* Say, and perhaps one or two other species of Pupa not satisfactorily determined. This list comprises all the land shells found. The varieties belonging to the fresh-water fauna are less numerous, though they occur in perhaps greater relative abundance, *Limnæa* being the genus most numerously represented. The kinds found were *Helicina oculata* Say, *Pomatiopsis lapidaria* Say, *Limnæa humilis* Say, *L. reflexa* Say, *L. caperata* Say, *Physa heterostropha* Say, *Planorbis trivolvis* Say, *Segmentina armigera* Say, *Valvata tricarinata* Say, *Sphærium striatinum* Lam., and an occasional fragment of *Anodonta (?)*. The last has never been found in a sufficiently well preserved condition to make a sure generic classification. No remains of Unio have ever come under my notice. The nature of the sediment composing the loess, together with the habits of the genera above indicated, all of which inhabit comparatively still and shallow waters, will enable us to gain a fairly correct idea of the conditions under which the deposit was formed. These lists may do what they can to determine the origin of the loess, which, so far as their individual testimony goes, was lacustral.—*R. Ellsworth Call, Des Moines, Iowa.*

THE RODENTIA OF THE AMERICAN MIOCENE.—The following catalogue shows the affinities of the members of the order *Rodentia* found hitherto in the White river, Truckee and Loup Fork horizons of the Miocene:

SCIUROMORPHA. Squirrels.

SCIURIDÆ.

Sciurus vortmani Cope; Pal. Bull. 31, p. 1, 1879. Truckee.
Sciurus relictus Cope (Paramys); New Vertebr. Colorado, 1873, p. 3. White river.
Sciurus ballovianus Cope; Bullet. U. S. Geol. Surv. Terrs., Feb., 1881. Truckee.
Gymnoptychus minutus Cope; Pal. Bull. No. 16, p. 6, 1873. White river.
Gymnoptychus trilophus Cope; Pal. Bull., No. 16, p. 6, 1873. White river.
Meniscomys hippodus Cope; Pal. Bull., No. 30, p. 5, 1878. Truckee.
Meniscomys liolophus Cope; Rept. U. S. Geol. Surv. Terrs., IV, MS. Truckee.
Meniscomys cavatus Cope; Rept. U. S. Geol. Surv. Terrs., IV, MS. Truckee.
Meniscomys nitens Marsh; Am. Journ. Sci. Arts, 253, 1877. Truckee.

ISCHYROMYIDÆ.

Ischyromys typus Leidy; Ext. Fauna Dak., Nebr., 1869, 335. White river.

CASTORIDÆ.

Castor peninsulatus Cope, Report U. S. Geol. Surv. Terrs., IV, MS. Truckee.
Castor gradatus Cope (*Steneofiber*); Pal. Bull., 30, p. 1, 1878. Truckee.
Castor nebrascensis Leidy (*Steneofiber*); Ext. Mamm. Dak., Nebr., 1869, p. 338. White river.
Castor pansus Cope; Report U. S. Expl. Surv. W. of 100 Mer., IV, p. 297, 1877. Loup Fork.
Eucastor tortus Leidy; Ext. Mamm. Dak., Nebr., 1869, p. 341. Loup Fork.

MYLAGAULIDÆ.

Mylagaulus sesquipedalis Cope; Bull. U. S. Geol. Surv. Terrs. 1873, p. 384. Loup Fork.
Mylagaulus monodon Cope; Rept. U. S. Geol. Surv., IV, MS. Loup Fork.

? FAM.

Heliscomys vetus Cope; Synopsis New Vert., Colorado, 1873, p. 3. White river.

MYOMORPHA. Mice, etc.

MURIDÆ.

Eumys elegans Leidy; Ext. Mamm. Dak., Nebr., 1869, p. 342. White river.
Hesperomys nematodon Cope; Pal. Bull., No. 31, p. 1, 1879. Truckee.

Hesperomys loxodon Cope; Report U. S. Expl. Surv. W. of 100th Mer., IV, p. 300. Loup Fork.
Paciculus insolitus Cope; Pal. Bull., No. 31, p. 2, 1879. Truckee.
Paciculus lockingtonianus Cope; Bull. U. S. Geol. Surv. Terrs., 1881, p. 176. Truckee.

GEOMYIDÆ.

Entoptychus planifrons Cope; Pal. Bull., No. 30, p. 3, 1878. Truckee.
Entoptychus lambdoideus Cope; Report U. S. Geol. Survey, Terrs., IV, MS. Truckee.
Entoptychus minor Cope; Report U. S. Geol. Surv. Terrs., IV, MS. Truckee.
Entoptychus cavifrons Cope; Pal. Bull., No. 30, p. 2, 1878. Truckee.
Entoptychus crassiramis Cope; Pal. Bull., No. 30, p. 3, 1878. Truckee.
Pleurolicus sulcifrons Cope; Pal. Bull., No. 30, p. 4, 1878. Truckee.
Pleurolicus leptophrys Cope; Report U. S. Geol. Surv. Terrs., IV, MS. Truckee.
Pleurolicus diplophysus Cope; Report U. S. Geol. Surv. Terrs., IV, MS. Truckee.

HYSTRICOMORPHA.

HYSTRICIDÆ.

Hystrix venustus Leidy; Ext. Mamm. Dak., Nebr., 1869, p. 343. Loup Fork.

LAGOMORPHA. Rabbits.

LEPORIDÆ.

Panolax sanctæfidæi Cope; Report U. S. Expl. Surv. W. of 100th Mer., IV, p. 296. Loup Fork.
Palæolagus agapetillus Cope; Pal. Bull., No. 15, p. 1, 1873. White river.
Palæolagus haydeni Leidy; Ext. Mamm. Dak., Nebr., 1869, p. 331. Truckee and White river.
Palæolagus turgidus Cope; Pal. Bull, No. 16, p. 14, 1873. White river.
Palæolagus triplex Cope; Pal. Bull., No. 16, p. 14, 1873. White river.
Lepus ennisianus Cope; Report U. S. Geol. Surv. Terrs., IV, MS. Truckee.

SUMMARY.

	Genera.	Species.
Sciuromorpha	8	17
Myomorpha	5	13
Hystricomorpha	1	1
Lagomorpha	3	6
	17	37

—*E. D. Cope.*

A NEW CLIDASTES FROM NEW JERSEY.—Professor Samuel Lockwood, of Rutgers College, recently discovered part of the skeleton of a large Mosasauroid reptile near Freehold, Monmouth county, New Jersey, which he sent me for examination. It proves to be a *Clidastes*, and much larger than any of the species of the genus hitherto known, having the dimensions of the *Liodon validus*. The parts preserved include numerous vertebræ, the greater part of the lower jaw with some teeth; a humerus and ulna nearly perfect; a nearly entire coracoid, and parts of both scapulæ. Besides the zygosphene articulation, the species displays other points of resemblance to the known species of *Clidastes*, as the narrow articular surfaces of the lateral joint of the lower jaw, the slender dentary bone and the very robust humerus. The extremity of the dentary bone is broken off. There are sixteen teeth and alveolæ on the portion preserved, and there were probably two or three others on the lost portion. The teeth differ from those of the known species in their subcircular instead of lenticular section. The middle teeth have fore and aft cutting edges, and are not faceted. The anterior teeth have no posterior cutting edge, and resemble in form those of *Platecarpus*. The enamel in all is smooth. The coracoid has a deep fissure extending towards the foramen. The humerus is wider distally than it is long. There are eight cervical vertebræ preserved, including the atlas and axis. The articular faces of the centra of these are a little wider than deep, and subcordate in form. The articular surfaces of the dorsals are relatively a little deeper, but are distinctly depressed. A distal caudal is also wider than deep, and of subquadrate outline. The chevron bones are coössified.

Probable length of dentary bone m. .620; depth of do, at fifth tooth from behind .077; diameters of crown of eighth tooth from behind, anteroposterior .018, transverse .016; diameters of cup of a cervical vertebræ, vertical .056, transverse, .066; do. of a dorsal, vertical .058, transverse .066. Length of humerus .130; distal width .160. Width of coracoid .225.

The species may be called *Clidastes conodon.*—*E. D. Cope.*

THE INTERNATIONAL GEOLOGICAL CONGRESS.—The International Geological Congress, which held its first session at Paris, in 1878, will meet again in Bologna, on the 26th September next under the presidency of M. Sella. Its success is assured by the generous liberality of the King of Italy, its protector. During the congress a geological exposition will be opened, for which important material has been sent. Professor M. Capellini of the University of Bologna, president of the committee on organization, will distribute the programme for the coming session, comprising different excursions of much interest to Imola, Poretta, Carrara, Pisa and Florence. The report of the international commission appointed in 1878 for the preparation of simplified geological nomenclature and conventional signs for the charts will also be addressed to the subscribers. The last question is open for competition, for which the king has set aside prizes awarded by jury. The memoirs for this competition must be in the hands of M. Capellini in Bologna by the 1st of June. The subscription amounts to twelve francs, and should be sent to treasurer of the Geological Society of France, 7 rue des grands-Augustins, Paris. The receipt will be forwarded immediately, and entitles the member to his ticket, to be delivered in Bologna on the 20th of September, and also to the Proceedings and other publications of the Congress.—*Revue Scientifique,*

GAUDRY ON STEREORHACHIS.—Professor Gaudry exhibited to the French Academy of Sciences, May 16, a block of the Permian of Igornay containing the bones of the Saurian named by him *Stereorhachis dominans*. It is the finest specimen of a quadrupedal animal yet found in a Palæozoic formation. The size of the specimens readily permits study of the curious scales formed like spines, which cover the belly in this species, the *Euchirosaurus* and the *Actinodon*. When these animals turned upon their backs, they presented these scales, and a strong entosternum and episterna, all supported by strong ribs, and were unassailable.

DILLER'S FELSITES OF THE REGION OF BOSTON.—A Geological Series of the Bulletin of the Museum of Comparative Zoölogy of Harvard University has been commenced, the second number of the volume being an essay on the felsites and the associated rocks north of Boston, by J. S. Diller.

GEOLOGICAL NEWS.—The Journal of the Geological Society of London for January, 1881, contains several articles of unusual interest. First is a paper on the structure of the spiral arms in several families of the Brachiopoda, by Thos. Davidson, which is largely based on specimens worked out very beautifully by the Rev. Norman Glass. Secondly, Descriptions of some specimens of pterodactyles of the genus *Ornithochirrus* from the Cambridge Upper Greensand, by Professor H. G. Seeley. Third, The relation of the Escharoid forms of Oölitic Polyzoa, by F. D. Longe, F.G.S. Fourth, New species of fossil fishes from the Black band iron stone near Edinburgh, by Dr. Traquair.——In the number of the Proceedings of the American Philosophical Society for January–June, 1881, Professor J. J. Stevenson gives an account of the geology of the south-western counties of Virginia. Professor Cope publishes a systematic analysis of the families and genera of the *Perissodactyla*, and of the species of *Triplopidæ;* also a note on the structure of the hind foot of *Toxodon*, which he finds to refer the *Toxodontidæ* near to or among the *Proboscidea*.——Miss Agnes Crane, of Brighton, England, author of various palæontological papers, is at present traveling in this country accompanied by her father.——Professor Weatherby, of Cincinnati, has recently discovered, in Kentucky, some huge crinoids with bodies a foot in diameter.——A specimen of *Rhinoceros (Cœlodonta) merki* was recently found imbedded in the ice of a tributary of the Lena river, Siberia. It was almost entire, with the flesh in good preservation. The head and foot only were preserved; the former is now at St. Petersburg.——Professor W. C. Kerr in the Transactions of the American Inst. of Mining Engineers describes the mode of occurrence of mica in North Carolina. It is found in irregular masses in vein-like beds of felspathic granite of very coarse texture in the Laurentian formation. The masses of felspar sometimes weigh several tons, and a single block of mica has been known to make two full two-horse wagon loads. The sheets sometimes measure three or four feet in diameter.